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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

SUBJECT: Review of Ground-Water Modeling in DATE: 11-13-91
Draft Risk Assessment for Du Pont
Newport Site in Newport, DE

FROM: Nancy L. Cichowicz, *nlc* Geologist
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TO: Randy Sturgeon, RPM
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A hydrogeologic review of Appendix D of the Draft Risk Assessment for the Du Pont-Newport site that was prepared by Woodward-Clyde Consultants and dated October 14, 1991 has been completed. The following comments are offered for your consideration.

1. The documentation that was provided did not include the following information which would aid in the review of the modeling exercise:

- a. why the particular code, AT123D, was selected over other available codes, and whether any modifications were made to the code;
- b. what the assumptions and limitations of the code are, and how these affect the modeling objectives;
- c. what values were used for input parameters, what is their uncertainty or what might be considered a reasonable range based on site-specific data, and what is the sensitivity of output given that uncertainty; and
- d. what the output format was for each of the two scenarios (average vs. RME concentrations) that were modeled.

2. The "conservativeness" of the modeling is stressed many times. True, the only processes included in the modeling exercise were advection and dispersion, whereas other factors that may affect downgradient contaminant concentrations were not included. However, the approach taken in the modeling exercise was not the most conservative, in that the source was considered as a slug rather than as continuous, and the location of the receptor well was considered off-center from the contaminant mass. Even the fact that longitudinal and transverse dispersion were considered (although the particular values used were not provided) made the

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approach more conservative than that usually taken to determine future ground-water concentrations in risk assessments. Therefore, it is suggested that the approach be revised to show the affect of a continuous source with the receptor oriented in a straight line from the center of the contaminant mass.

Please let me know if you have any questions. I have the AT123D code and documentation.

c: R. Smith
E. Johnson

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